a backup component, the backup component collecting system state information of the first computer device and recording the system state information to the medium, the system state information including storage mechanism configuration data; and

a restore component, the restore component reading the medium to obtain the system state information and configuring the second computer device in accordance with the system state information, including automatically configuring a storage mechanism on the second computer device based on the storage mechanism configuration data.

45. (Amended) The system of claim 39 wherein the storage mechanism configuration data includes hard disk configuration information.

REMARKS

The Office Action of February 26, 2002 ("the Office Action") has been carefully considered. In the Office Action, claims 1-55 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McGill, III et al., U.S. Patent No. 5,469,573, (hereinafter McGill) in view of Hugard et al., U.S. Patent 5,745,669, (hereafter Hugard). By the present amendment, claims 1, 4, 9, 10, 27, 30, 31, 39 and 45 have been amended and the rejections traversed in view of the following remarks. Reconsideration is respectfully requested.

The present invention is generally directed towards an Automated System Recovery (ASR) mechanism which provides a single, coherent and structured mechanism for backing up and restoring system state. A backup component copies and stores the state information that

intrinsically defines the configuration of the computer system for potential and future recovery by obtaining and preserving the underlying description of the system, comprising data that is separate from the actual operating system and data files. The backed-up state information includes storage mechanism data, such as the disk geometry, structure and layout, number of disk partitions, how the partitions are arranged on the disk, and the location where the operating system is installed on the disk. Information specifying which programs to execute during the restore phase may also be included, including programs to copy and execute, any error handling, and any special driver files to load.

When recovery is desired, a restore component operates in a first phase to use the backed-up configuration information to compare with the current state of a new system, and the disk and volume state are restored according to the saved information. In the event that the partitions and disks are different during the restore phase, these boot and system partitions may be automatically reconfigured (or adjusted) in this first phase. Once the underlying system state of the storage mechanism is restored, a recovery environment is created by copying a set of files required to run the programs that will restore the remainder of the data, e.g., a second restore phase configures the environment for launching a restore program, including detecting and installing drivers and support for devices installed on the system. The restore program(s) are then run according to the instruction that were saved therewith during the backup phase, to restore the remainder of the data.

Note that the above description is for informational purposes only, and should not be used to interpret the claims, which are discussed below.

In contrast, neither McGill nor Hugard deal with the concept of automated system recovery via backup and restoration of *system state information*, let alone in the manner recited in the claims. As defined in the specification and reiterated above, system state information essentially comprises an underlying description of the system, including data separate from the actual operating system and data files, i.e., the information that intrinsically defines the configuration of a computer system. In fact, the Office action recognizes this in conceding that "McGill does not explicitly teach system state information." *See e.g.*, Office action, page 4. At the same time, the "computer configuration data" in Hugard referred to in the Office action (at page 4 thereof) clearly does not disclose or suggest the recited state information, since these types of files that are to be restored (e.g., *.INI, *.DRV, *.SYS, *.COM, *.EXE) in Hugard are conventional data file types, that can only be restored to an already-configured storage mechanism of a system. Nowhere does Hugard teach or suggest interpreting data that can configure any system hardware upon restore, let alone a hard drive, for example.

In the prior art of record, there simply is no teaching of any system state information that is saved and/or interpreted to automatically configure an underlying system, including a storage mechanism on that system. As a result, applicants submit that the Office Action has not established a *prima facie* case of obviousness as a matter of law, and that the claims as filed are clearly patentable over the prior art of record. By law, to establish a prima facie case of obviousness, the prior art references must teach or suggest all the claim limitations, and all words in a claim must be considered in judging the patentability of that claim against the prior

art. MPEP § 2142; In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Clearly neither McGill nor Hugard, whether considered alone or in any permissible combination, comes close to meeting these requirements, as neither reference considers the preservation and/or use of system state information as recited in the claims, let alone system state information related to the automatic configuration of a storage mechanism.

Notwithstanding, with respect to claim 1, for example, the Office action contends that "McGill discloses the capability of data information including operating system files, system configuration files, device driver files, and any other files necessary to properly configure and operate the workstation." *Id.* Significantly, however, this is incorrect with respect to configuration of a storage mechanism, as McGill does not save and/or utilize any storage mechanism configuration data to automatically configure a storage mechanism and create a restoration environment therefrom, in contrast to claim 1 and other claims. On the contrary, as specifically taught by McGill, any hard-disk configuration refers to copying data files to an already prepared hard disk, or refers to a set of manual operations and manually run programs in which an operator must perform a significant amount of decision making, for example in having to determine if the hard drive being restored is to be partitioned or formatted, and then manually doing what is necessary to match that decision, e.g., run an FDISK program, run various versions of a format program, and so on. McGill, column 7 lines 15-53. In other words, in contrast to the present invention, the necessity of requiring an operator to prepare the environment as taught by McGill involves many decisions, the use of many disjoint and

separate programs, and the performance of other operations, and thus suffers from essentially the same problems and drawbacks as referred to in the background section of the specification of the present application. In fact, McGill teaches away from the applicant's invention as essentially claimed, e.g., in claim 1 wherein the saved system state information is used to restore the underlying system state, including automatically configuring the storage mechanism. By law, if prior art, in any material respect teaches away from the claimed invention, the art cannot be used to support an obviousness rejection. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed Cir. 1997).

For at least the foregoing reasons, the prior art of record, whether considered alone or in any permissible combination, fails to disclose or suggest any of the claims. Reconsideration and withdrawal of the rejections of claims 1-55 is respectfully requested.

Moreover, applicants note that much of the alleged motivation in the Office action for combining McGill with Hugard is directed to restoration of conventional files, not the configuration of a storage mechanism, and further appears to come from applicants' teachings. For example, error handling, high reliability and flexibility, improved performance, reduction in errors and so forth are significant improvements taught by applicants, not by the prior art. Indeed, considering the § 103(a) rejection as a whole, it is evident that the references could only have been selected and combined to reject the claims by using the impermissible hindsight knowledge learned from applicant's teachings. For example, to make up for the deficiencies in McGill, it appears that the Office Action selected Hugard for its use of the term "configuration," even though the "configuration data" of Hugard referred to in the Office

action is a set of conventional files, which are not used to configure a storage mechanism, but only restore data files to an already configured storage mechanism. Clearly applicants' teachings were used in an (unsuccessful) attempt to combine the references and piece together applicants' claimed invention.

Such a hindsight reconstruction based on applicants' teachings is impermissible by law, as in order to support a § 103(a) rejection, there must be some teaching, suggestion, or motivation other than applicants' teachings for modifying a cited reference or combining references to achieve the claimed invention. The Office Action does not indicate any suggestion or motivation in the prior art of record, either explicit or otherwise, for modifying the references or combining the references in a manner that would achieve the claimed invention, or point out any teaching as to how such a modification or combination might be accomplished, or what might be accomplished thereby.

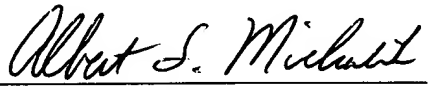
For at least the foregoing reasons, applicants submit that the § 103(a) rejections are improper as a matter of law, and further submit that even if somehow permissible to combine with McGill with Hugard, the claims of the present invention are still patentable over any such combination. Reconsideration and withdrawal of the rejections is respectfully requested.

CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that claims 1-55 of the present application are patentable over the prior art of record, and that the application is in good and proper form for allowance. A favorable action on the part of the Examiner is

earnestly solicited. If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (425) 836-3030.

Respectfully submitted,



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APPENDIX A

(Copy of amended claims showing additions and deletions made herein relative to previous versions)

1. (Amended) A method for backing up and restoring a computer system, comprising:

writing system state information to a first medium, the system state information including storage mechanism configuration data and data for operating a backup device;

writing data files via the backup device to a second medium;

reading the system state information from the first medium and:

1) automatically configuring a storage mechanism based on the storage mechanism configuration data, and

2) creating a restoration environment [therefrom] from the system state information;

enabling the operation of the backup device in the restoration environment; and

operating the backup device to restore the data files by reading the second medium.

4. (Amended) The method of claim 1 wherein writing system state information includes writing hard disk configuration information as the storage mechanism configuration data.

9. (Amended) The method of claim 1 wherein [creating a restoration environment] automatically configuring the storage mechanism includes configuring at least one hard disk based on the storage mechanism configuration data.

10. (Amended) The method of claim 1 wherein [creating a restoration environment] automatically configuring a storage mechanism includes configuring a hard disk based on the storage mechanism configuration data, and creating a restoration environment includes copying operating system files to the hard disk.

27. (Amended) A method for restoring a computer system, comprising:

accessing system state information including hard disk configuration information and recovery information;

interpreting the hard disk configuration information to automatically configure a hard disk based thereon;

creating a restoration environment from the system state information including writing data to the configured hard disk; and

executing at least one recovery instruction based on the recovery information.

30. (Amended) The method of claim 27 wherein creating a restoration environment from the system state information includes configuring at least one other hard disk.

31. (Amended) The method of claim 27 wherein creating [a] the restoration environment from the system state information includes copying system files to [at least one] the configured hard disk.

39. (Amended) A system for backing up a first computer device for restoring to a second computer device, comprising:

a medium;

a backup component, the backup component collecting system state information of the first computer device and recording the system state information to the medium, the system state information including storage mechanism configuration data; and

a restore component, the restore component reading the medium to obtain the system state information and configuring the second computer device in accordance with the system state information, including automatically configuring a storage mechanism on the second computer device based on the storage mechanism configuration data.

45. (Amended) The system of claim 39 wherein the [system state information] storage mechanism configuration data includes hard disk configuration information.